

# **Numeracy Policy**

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## 1.0: Rationale

Literacy and numeracy are among the most important life skills that our schools teach. No child should leave school without having mastered these skills to the best of their abilities. Literacy and numeracy skills are crucial to a person's ability to develop fully as an individual, to live a satisfying and rewarding life and to participate fully in our society. Ensuring that all young people acquire these skills is one of the greatest contributions that we can make to achieving social justice and equity in our country. - Ruairí Quinn, TD Former Minister for Education and Skills.

Here at Presentation Wexford, we believe that Numeracy is a proficiency which is developed mainly in mathematics but also in other subjects. It is more than an ability to do basic arithmetic. It involves developing confidence and competence with numbers and measures. It requires understanding of the number system, a repertoire of mathematical techniques, and an inclination and ability to solve quantitative or spatial problems in a range of contexts. Numeracy also demands an understanding of the ways in which data are gathered by counting and measuring, and presented in graphs, diagrams, charts, and tables. This document provides information and calculation methods to allow a consistent approach to mathematics across the curriculum which will result in students mastering the skills.

# **2.0: Numeracy Definition**

Numeracy is not limited to the ability to use numbers, to add, subtract, multiply and divide. Numeracy encompasses the ability to use mathematical understanding and skills to solve problems and meet the demands of day-to-day living in complex social settings. To have this ability, a young person needs to be able to think and communicate quantitatively, to make sense of data, to have a spatial awareness, to understand patterns and sequences, and to recognise situations where mathematical reasoning can be applied to solve problems.

#### **3.0: Teachers of Mathematics should:**

- ✓ Provide support and advice to other departments with the use of the Numeracy and Policy, so that a correct and consistent approach is used in all subjects.
- ✓ Provide information to other subject teachers on appropriate expectations of students and difficulties likely to be experienced in various age and ability groups.
- ✓ Through liaison with other teachers, attempt to ensure that students have appropriate numeracy skills by the time they are needed for work in other subject areas.
- ✓ Seek opportunities to use topics and examination questions from other subjects in mathematics lessons.

# 4.0: Teachers of other subjects should:

✓ Ensure that they are familiar with correct mathematical language, notation, conventions, and techniques, relating to their own subject, and encourage students to use these correctly.

- Be aware of appropriate expectations of students and difficulties that might be experienced with numeracy skills.
- Provide information for mathematics teachers on the stage at which specific numeracy skills will be required for particular groups.
- Provide resources for mathematics teachers to enable them to use examples of applications of numeracy relating to other subjects in mathematics lessons.
- Be aware of strategies and interventions being employed in the mathematics department to raise numeracy standards.

#### 5.0: Numerate Students

- $\checkmark$  Have a sense of the size of a number and where it fits into the number system.
- ✓ Read numbers correctly from a range of meters, dials, and scales.
- ✓ Know basic number facts and recall them quickly and confidently.
- ✓ Use calculators and other ICT resources appropriately and effectively to solve mathematical problems.
- ✓ Make sense of number problems, recognise the operation(s) needed and can work confidently with numbers.
- $\checkmark$  Know when answers are reasonable and give results to an appropriate degree of accuracy.
- ✓ Can manipulate algebraic expressions and simple formulae.
- $\checkmark$  Understand and use correct mathematical notation and terminology.
- ✓ Use units of measurement of length, angle, mass, capacity, and time; can suggest suitable units for measuring, make sensible estimates of measurements and measure accurately using a range of instruments.
- $\checkmark$  Understand and use compound measures and rates.
- $\checkmark$  Use simple relevant formulae to solve problems.
- ✓ Measure and estimate measurements, choose suitable units and calculate simple perimeters, areas and volumes.
- ✓ Draw plane figures to given specifications and appreciate the concept of scale in geometrical drawings and maps.
- ✓ Understand the difference between the mean, median and mode and the purpose for which each is used.
- ✓ Collect discrete and continuous data, and draw, interpret and predict from graphs, diagrams, charts, and tables.
- ✓ Understand probability and risk.

#### 6.0: Numeracy Committee

A Numeracy Committee will be established within the school staff. This group will be responsible for co-ordinating the development and implementation of a whole school approach to numeracy development – encompassing professional development for teachers, short-term interventions, and a school-wide enrichment policy. This group will comprise the following:

- Numeracy co-ordinator(s) preferably a member of the Mathematics Department.
  Learning support representative.
- ✓ Management representative

#### 7.0: Whole school Aims:2023 - 2026

First year Screening All incoming first years are assessed in the areas of numeracy and literacy using a combination of different standardised tests. Based on these tests we aim to:

- Implement a targeted intervention programme for students whose screening tests indicate the presence of numeracy difficulties.
- Inform teachers of all subjects of any learning issues which may arise in their subject due to these numeracy difficulties and advise on how best to overcome these issues.
- Establish a co-ordinated approach to teaching numeracy skills across the curriculum This will involve:
- Each subject department identifying the numeracy skills and concepts relevant to their subject.
- Co-ordination with the Mathematics Department on when and how these skills and concepts are taught to allow students to utilise confidently and competently these in other subject areas.
- ✓ Focusing on the language of mathematics as it arises in all areas of the curriculum and encouraging the use of a mathematics glossary and word banks to ensure that language and concepts are clearly explained.

## **8.0: Student Involvement**

Students should be encouraged to realise when and where they use their numeracy skills. This will involve:

- Posters being used around the school and in classrooms identifying the myriad places that students use their numeracy skills.
- Empowering parents to get involved in their child's numeracy development by actively encouraging the student to use their numeracy skills at every opportunity. Identifying for parents how easily they can achieve this.
- Regular Puzzle competitions during Numeracy events to encourage logical thinking and develop problem solving skills in a fun way. These puzzles should, where possible, be tailored to relate directly or indirectly to topics covered across the curriculum.
- Guest speakers from S.T.E.M and areas of business that incorporate numeracy into their working lives will be visiting the school.
- ✓ Students are encouraged to attend the school's maths support centre/ clinic which is ran by teachers and students with any numeracy problems they may encounter.

#### 9.0: Special educational needs

The Learning Support Co-ordinator will liaise with staff members so that the needs of students with numeracy challenges can be best met. Staff members will also liaise with Special Needs Assistants (SNAs) to facilitate positive learning outcomes for the specific students they assist.

#### **10.0: Monitoring and Evaluation**

This policy and the school's efforts to improve standards of Numeracy will be monitored in 2023 and evaluated by the Numeracy Team. This team will liaise with each subject department to evaluate the progress being made and identify any further issues needing to be addressed. To facilitate this each subject department will need to clearly define what numeracy skills are required in their area and assess these skills in a relevant manner.

#### **11.0: Developing cross curricular Numeracy**

Learners can develop their numeracy skills across the curriculum by using mathematical information, calculating, interpreting, and presenting results. The following defines the contribution of the subjects (excluding mathematics) to the development of numeracy across the curriculum:

**ART** Apply number skills such as measurement, estimates, scale, proportion, pattern and shapes to develop, inform and resource their creative activities.

**<u>GEOGRAPHY</u>** Apply number skills in the classroom and in fieldwork to measure, gather, present, and analyse data. They use mathematical information to understand direction, distances, and scale and to determine locations when using plans, maps, and globes.

**HISTORY** Develop their number skills through developing chronological awareness, using conventions relating to time, and making use of data, e.g. census returns and statistics.

**SCIENCE** Work quantitatively to estimate and measure using non-standard and then standard measures, recording the latter with appropriate S.I. units. They use tables, charts and graphs to record and present information. With increasing maturity, they draw lines of best fit on line graphs, use some quantitative definitions and perform scientific calculations.

**MFL** Develop number skills through a range of activities in the target language. These can include ordering numbers; ordering events in time; gathering information in a variety of ways, including questionnaires and recording and presenting results in a variety of formats.

**RELIGIOUS EDUCATION** Develop skills in the application of numeracy skills by using information such as ordering events in time, by measuring time through the calendars of various religions and by considering the significance of number within religions. They interpret results/data and present findings from questionnaires, graphs, and other forms of data in order to draw conclusions and ask further questions about issues relating to religion and the world.

**PHYSICAL EDUCATION** Develop their number skills by using mathematical information and data. They measure and record performances. time, distance and height, and use the data to set targets and improve their performance.

**ENGLISH** Develop skills in the application of numeracy skills through activities which include ordering events in time, gathering information in a variety of ways, including questionnaires, accessing, selecting, recording and presenting data in a variety of formats. **CSPE** Select data from given information presented in a range of numerical and graphical ways. Gather information in a variety of ways, including simple questionnaires or databases to support understanding of CSPE-related issues; recording and presenting results in a variety of formats.

# **12.0: Ratification**

This policy was ratified by the Board of Management on 5th October 2023 following consultation with all stakeholders.

Chairperson: <u>Mary Culleton</u>

Date 5th October 2023

Principal: <u>Billy Ryan</u>

Date: 5th October 2023